

PREDATOR AND RODENT CONTROL—SOUTHEASTERN STATES

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From the time of the early settlers at Jamestown, Virginia, in 1609, three and a quarter centuries ago, rodents, wolves and other predators throughout North America have taken a heavy toll of livestock and other farm products. In 1914 Congress made a small appropriation for experiments and demonstrations on the control of predatory animals, mainly to find out what might be done. In the following year, 1915, the first sizeable appropriation for the control of predators and rodents was made to the Biological Survey, predecessor to the Fish and Wildlife Service.

Since the beginning of this work, considerable progress has been made in methods, procedures and organization. Assistance is given in conducting predator and rodent control programs on Federal, State and private lands for the protection of food, stored grain, forestry, and desirable wildlife. These activities are usually conducted under Cooperative Agreements with major State agencies, and secondary agreements with counties, associations, cities and other public agencies.

REFORESTATION

Mice and birds are frequently a limiting factor in reforestation. Direct aerial or ground seeding is much less expensive than transplanting seedlings, but is rarely successful unless mouse and bird activity is limited. In recent years repellents have been developed that prevent most birds and rodents from eating pine seeds, thus making it possible to secure good stands of seedlings. There are approximately 22,784,000 acres of plantable areas in commercial forest lands in the Southeast.

GRAIN SANITATION

The Clean Grain Sanitation Program is of particular interest to the food industry. Rates, mice and certain species of birds are a serious menace to clean grain—and incidentally, to mankind generally. They contaminate food, spread disease, and carry filth everywhere. This filth consists of saliva, urine, droppings, feathers, hair, and decomposed bodies as well as the dirt they pick up and transport on their tails, feet and fur.

In North Carolina alone it is estimated that a 100 million bushel corn crop was harvested this year. Farm storage is available for 52 million bushels, with only 8 million bushels of this amount being rodent-proofed. Forty-eight million bushels will be left in the field, subject to rodent damage, until shipment can be made or further storage provided.

The control of rats and mice has been greatly aided in recent years by anticoagulant poisons. Despite great progress, there is still much to be done, particularly in guarding surplus grain stores from rodents.

NUTRIA

Nutria (*Myocaster coypus*), a furbearing rodent native to South America, was introduced into the United States as early as 1937. Animals that escaped or were released have since built up a population that has become a menace to certain farm groups.

Studies of nutria as a fur animal in the coastal marshes of Louisiana have been carried out by personnel of the Branch of Wildlife Research since about 1949. Investigations in the control of this animal followed in 1957. These studies indicate that nutria damage to sugar cane, rice plantings, and corn fields have become increasingly widespread.

The principal damage results from the animal feeding on, and promiscuously cutting down the sugar cane, which chiefly occurs along those sides of the

fields adjoining drainage ditches and bayous. The degree of penetration depends upon the infestation present and duration of feeding. The animal moves into the fields during the night and returns to more secluded cover of the adjacent bayous and marshes during the day.

Nutria invasion of the rice fields takes place by way of the irrigation canals. Damage is inflicted by the animals feeding on and cutting down rice plants for the construction of rest platforms.

RABIES

Diseases transmitted or carried by predators and rodents or their ectoparasites are of increasing concern to the Service. Of the many diseases to which wildlife is subject, rabies is now probably one of the most important. Recently discovered occurrences of rabies in bats has added an unknown factor in spread of the disease.

Foxes appear to be the principal vectors of rabies in wildlife in the Southeastern States, and in spite of continuing prevalence of the disease, populations appear to be maintained at a sufficiently high level to perpetuate the enzootic. While it appears a high population of foxes is necessary for an explosive outbreak of rabies (epizootic), a low population level is capable of sustaining the disease in animals.

In the Southeast where heavy human populations, birds and beneficial wildlife prevents the safe use of poisons, other methods, such as den hunting, trapping and shooting, are recommended.

Where organized projects are conducted, the disease may be controlled. Such programs generally leave enough foxes to provide good hunting, whereas an uncontrolled rabies epidemic usually depletes the fox population to a point where there is little or no hunting for several years. This work should also include mass immunization of all home-owned dogs and elimination of strays.

PREDATORS

Wolves and bobcats are the principal predators in the Southeast. A statewide predator program in Arkansas, with ten trappers and one supervisor, has functioned in an efficient manner. During fiscal year 1958 they captured 348 wolves and 168 bobcats. A few examples of damage done by these predators are cited.

One trapper caught a bobcat with a wild turkey egg in its mouth. Another trapper, when running his trapline, found two bobcats tangled in the traps and in the trees overhead were about 30 or 40 wild turkeys. In checking the area he found fresh feathers of a turkey covered with leaves and straw.

Still another trapper related he saw where a large deer had crossed a sand bar and every place the deer hit the ground a large amount of blood was noticed. At the water's edge where the deer jumped into the river, tracks of a large bobcat were found. The cat had been riding the deer trying to kill it.

A wolf was driven off a hog after it had eaten half a ham. The hog was still alive. Traps were set and an old wolf with badly worn teeth was caught. Another wolf was frightened off a calf which had several pounds of flesh eaten from one of its hind quarters; this calf was still alive.

BLACKBIRDS

Depredating and nuisance birds have become a serious problem. The Service is frequently called upon for assistance in dispersing starlings, sparrows, blackbirds, pigeons and other birds. The control of blackbirds and allied species has especially developed into a major problem in the rice fields of the South and in the sweet corn producing areas in the East.

I recently visited the rice growing area in the vicinity of Lake Village and Eudora, Arkansas, to evaluate the damage done by blackbirds; review methods and effectiveness of control being practiced by growers, and the effect of control work on other bird species. It was immediately apparent the growers

were having trouble with the birds. Carbide guns were strategically placed over fields and gauged to fire about every thirty seconds. Men were employed to service the guns and shoot rifles to scare the birds from the fields. Airplanes also flew over the fields about two feet above the rice in an effort to frighten the birds away. The birds did not appear to pay much attention to the noise of the guns or the planes.

Blackbirds not only eat the rice but shell out more than they eat. They also pinch the grain while in the milk stage, causing additional loss. It was estimated that each blackbird will eat approximately its weight every three days (U. S. Department of Agriculture). In the spring they dig up and eat the seed as well as pull up the young sprouts. The birds not only feed on the rice during the day but large numbers come late in the afternoon to roost in some of the fields. Apparently there is no satisfactory control method known at this time but the Bureau of Sport Fisheries and Wildlife are conducting research on the problem.

There is a growing realization that predator and rodent control is an effective tool of wildlife management when used properly and applied diligently by qualified personnel. Success comes only through continuous teamwork and vigilance in judicious application of the most modern methods when and where required.

SPECIAL REPORTS

WATER PROJECTS IN ARKANSAS IN RELATION TO WILDLIFE AND RECREATION *

A SUMMARY REPORT, COMMITTEE ON WATER USE

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INTRODUCTION

The number and scope of water projects in the State of Arkansas, and in the United States as a whole, are so vast and complicated that analysis of the results and effects of the program, or of any of its segments, is nearly impossible. A review of Engineer Reports to 1957 indicates that there were, at that time, a minimum of sixty-eight authorized flood control, drainage and navigation projects, which had been completed, started or were planned for future construction in the State. They ranged in size from the huge Arkansas River Navigation Project, with its numerous dams, levees and channels, to separate levee and drainage projects encompassing the drainages of the lesser streams and bayous. Cost estimates for half of these authorized projects total \$541,574,072.00. A survey of future plans indicates that there are numerous other projects, not yet authorized, but planned for the future.

Certain of these water projects have enhanced wildlife and recreational values. Others have created critical problems in the preservation of wildlife species, in perpetuation of various sports and recreation, and in the preservation of human habitat as we know it. In general, this program has resulted and will result in a vast reduction in lowland lakes, streams and wetlands essential to waterfowl and other wildlife species, and in bottomland hardwood timber through the conversion of these timberlands to croplands.

As of 1950, (see Agricultural Census Rept.), 4,700,000 acres had been drained in Arkansas, and approximately 3,700,000 acres of seasonally flooded

* Presented as a segment of a report to the Southeast Section, Wildlife Society, by the members of Committee on Water Use.